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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/579,089	03/09/2007	Daniel Smith	DAIRY88.019APC	6303	
29965 ASTONO OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAM	EXAMINER	
			KING, FELICIA C		
			ART UNIT	PAPER NUMBER	
			1784		
			NOTIFICATION DATE	DELIVERY MODE	
			04/01/2010	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Application No. Applicant(s) 10/579.089 SMITH ET AL. Office Action Summary Examiner Art Unit FELICIA C. KING 1794 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS. WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filed on 03 March 2010. 2a) ☐ This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4)\ Claim(s) 1-9.11-15.18.19.22.24.31-34.36-49.51-63 and 65-79 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) _____ is/are allowed. 6) Claim(s) 1-9,11-15,18,19,22,24,31-34,36-49,51-63 and 65-79 is/are rejected. 7) Claim(s) _____ is/are objected to. 8) Claim(s) _____ are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are; a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abevance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Parer No(s)/Mail Date. ___ Notice of Draftsperson's Patent Drawing Preview (PTO-948).

Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date 3/3/10.

5) Notice of Informal Patent Application

6) Other:

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 3/3/10 has been entered.

Claim Rejections - 35 USC § 103

- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- Claims 1, 4, 5, 9, 11-13, 15, 18, 19, 22, 63, 65-67, 69-72, 76 and 79 are rejected under 35
 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118) in view of Lashkari (GB 1,057,170), and Dybing et al. (WO 02/082917) and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051).

Regarding Claims 1, 11-13,18, 19, 22, 76: Blazey discloses a process of making cheese by providing a concentrated milk to produce a retentate and supplementing the concentrated milk with a protein concentrate and after adding fat (in the form of butter) and flavor and applying lactic acid and heating the mixture to 80°C for 2 minutes without holding for fermentation [col. 4, lines 32-39; col. 8, lines 26-47] and also discloses that a rennet although not required can be used to treat a minor portion of the milk protein [col. 7, lines 1-3] and further discloses incorporation of a rennet in the process of making a cheese product [Ex. 1, col.8, lines 28-33] but does not disclose that the flavor composition contains a strain of organism or where the protein has a calcium content of 100 mM/kg – 700 mM/kg. Blazey does provide for like materials (lactic acid) used in a like manner (heated with the protein and fat) which would indicate that a cheese mass was formed by heat

coagulation where Skovhauge teaches lactic acid as a coagulant and that heat coagulated cheeses are made at temperatures between 50°C - 100°C [col. 3, lines 37-50]. However, Lashkari discloses a cheese flavor composition containing an edible mold which is *Penicillium raqueforti* [col.1, lines 17-24] can be added to a food composition to provide a cheesy flavor. However, Dybing discloses protein concentrate having a calcium content of 378 mM/kg [pg. 15-16, Ex. 1].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, and Dybing before him or her to modify the cheese product of Blazey to incorporate the cheesy flavor of Lashkari in order to make a flavor typical of blue cheese without months of aging/curing to create natural blue cheese as is usual in the art [Groesbeck col. 1, lines 20-27]. Blazey's process is specifically directed towards a cheese product that does not require fermentation and where the mixture of protein and fats [col. 10, lines 49-51; col. 11, lines 1-5]. Lashkari discloses where the flavoring component is highly flavored and does not require further treatment in order to be added to a food component [col. 3, lines 43-46]. Because Blazey discloses the need for a flavor agent by its inclusion in the process of making the cheese product it would have been obvious to flavor the cheese product with the blue cheese flavoring of Lashkari in order to give a specific highly flavored product without having to wait for months to produce the flavor as is known in the art, and to give more variety to the consumers as Blazey discloses flavoring for American cheese, Cheddar cheese, Mozzarella, Ricotta, and cream cheese. Further it would have been obvious to provide a calcium content at the level disclosed because protein concentrates with calcium content at this level have desirable gel forming properties, powder hydration and emulsification [Dybing pg. 10, lines 7-13].

Regarding Claims 4, 65, 66, 67: Blazey discloses a process of making cheese as discussed in Claim 1 and further discloses dividing cheese into slices, block form, or in tubs and that because

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making a cheese mass is the first step in making processed cheese that other ingredients can be added to the cheese to product block forms, slices and spreads [col. 7, lines 57-67, col. 8, lines 1-5].

Regarding Claim 5: Blazey discloses dividing the cheese into slices, blocks or spreads [col. 7, lines 57-67, col. 8, lines 1-5] where the instant claim recites dividing into portions.

Regarding Claims 9, 63: Blazey discloses Mozzarella made by the process that has body, texture and the ability to be grated [col. 15, lines 35-37] where the instant claim recites shredded or particulated.

Regarding Claims 15, 69: Blazey discloses 6% of a flavor compound added to the cheese [Ex. 5] where the instant claim recites .1% to 20%.

Regarding Claim 70: Blazey discloses where the fat source is cream or butter [col. 6, lines 38-40].

Regarding Claims 71 and 72: Blazey discloses where the heating step is carried out at 80°C for 2 minutes.

3. Claims 2, 3, 8, 11, 31, 34, 36-38, 40-43, 45, 49, 51-53, 55-58, 62, and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118) and further in view of Lashkari (UK 1,057,170), Dybing et al. (WO 02/082917) and Bernard et al. (US 4,948,613) and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051).

Regarding Claims 2, 11, 36, 37, 38: Blazey discloses a process of making cheese as discussed in Claim 1 and further discloses where the product is packaged for refrigeration [col. 8, lines 47-48] where the instant claim recites cooling the product. Skovhauge teaches coagulation with lactic acid and at temperatures as discussed above in claim 1. Lashkari discloses a cheese flavor composition containing the mold *Penicillium roquefurti* as discussed above in Claim 1. Blazey does

not explicitly disclose a cooling step, application of viable organisms to the surface or allowing cheese to ripen. However, Dybing discloses protein concentrate having a calcium content of 378 mM/kg as discussed above in Claim 1. However, Bernard discloses a cheese product that is cooled, the surface of the cheese is inoculated with micro-organisms that grow and promote ripening of the cheese [col. 4, lines 48-55].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing, and Bernard before him or her to modify the process of Blazey with the flavor concentrate of Lashkari to include the cooling, surface inoculation and ripening steps of Bernard because Blazey and Bernard both disclose cheese products that are similar to traditionally made cheeses [Bernard col. 2, lines 33-36]. In order to get a more traditional texture and overall organoleptic qualities in the non-traditionally made cheese Bernard discloses that the application of the microbes to the surface of the cheese produces a surface bloom similar to traditional cheese [col. 4, lines 49-55].

Regarding Claim 3, 45, 51, 52, 53, 74,78: Blazey discloses a process of making cheese as discussed in Claims 1 and 2 and further discloses dividing cheese into slices, block form, or in tubs and that because making a cheese mass is the first step in making processed cheese that other ingredients can be added to the cheese to produce block forms, slices and spreads [col. 7, lines 57-67. col. 8, lines 1-5] and where fat and flavor can be added before heating [abstract]. Skovhauge teaches coagulation with lactic acid and at temperatures as discussed above in Claim 1. Lashkari discloses a cheese flavor composition containing the mold *Penicilllium requeforti* as discussed above in Claim 1. However, Dybing discloses protein concentrate having a calcium content of 378 mM/kg as discussed above in Claim 1. Bernard discloses a cheese product that is cooled, the surface of the

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cheese is inoculated with micro-organisms that grow and promote ripening of the cheese as discussed above in Claim 2.

Regarding Claims 8, 62: Blazey discloses a process of making cheese as discussed in Claim

1 but does not disclose applying viable microorganisms to the surface and allowing to ripen.

However, Bernard discloses applying viable organisms to the surface and allowing to ripen as discussed above in Claim 3.

Regarding Claim 31: Blazey discloses dividing the cheese into slices, blocks or spreads [col. 7, lines 57-67. col. 8, lines 1-5] where the instant claim recites dividing into portions.

Regarding Claims 34, 49: Blazey discloses Mozzarella made by the process that has body, texture and the ability to be grated [col. 15, lines 35-37] where the instant claim recites shredded or particulated.

Regarding Claims 40, 55: Blazey discloses 6% of a flavor compound added to the cheese [Ex. 5] where the instant claim recites .1% to 20%.

Regarding Claims 41, 56: Blazey discloses where the fat source is cream or butter [col. 6, lines 38-40].

Regarding Claims 42, 43, 57, 58: Blazey discloses where the heating step is carried out at 80°C for 2 minutes.

4. Claims 6, 7, 60, 61, are rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118), Lashkari (UK 1,057,170), Dybing et al. (WO 02/082917) and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051) as applied to claim 1 above and in further view of Chikuma (US 3,091,539).

Regarding Claims 6, 7, 60, 61: Blazey discloses a process of making cheese as discussed in Claim 1 but does not disclose where the cheese is subject to freezing. However, Chikuma discloses

a method of making a cheese product by freezing, thaving and further ripening curd [col. 3, lines 1-6].

At the time of the invention it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing and Chikuma before him or her to modify the process of Blazey to incorporate a freezing step, thawing and ripening step in order to stop any undesired enzymatic reactions by freezing and to allow for further ripening of the cheese to enhance the flavor of the cheese product.

5. Claims 14 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118), Lashkari (GB 1,057,170), Dybing et al. (WO 02/082917), and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051) as applied to claim 1 above and in further view of Bauman (US 2,965,492).

Regarding Claims 14 and 68: Blazey discloses a process of making cheese as disclosed in Claim 1. Lashkari discloses a flavor concentrate made from a mold as discussed in claim 1 but neither reference discloses where the flavor concentrate additionally discloses a flavor-enhancing bacterium that produces lactic acid, propionic acid, or butyric acid. Dybing discloses protein concentrate having a calcium content of 378 mM/kg as discussed above in Claim 1. However, Bauman discloses preparing a dried cheese product where the condensed milk is inoculated with lactic acid starter and Penicillium raqueforti [col. 4, lines 55 - 64].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing and Bauman before him or her to incorporate a lactic acid starter in order to help implant *P. roqueforti* and serve as fuel for *P. roqueforti*.

Claims 24 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over
 Blazey et al. (US 6,177,118), Lashkari (GB 1,057,170), and Dybing et al. (WO 02/082917) and

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as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051) as applied to claim 1 above and in further view of The American Cheese Society

(http://web.archive.org/web/2004/0917204831/http://www.cheeseociety.org/displaycommon.cfm²an=1&subarticlenbr=5).

Regarding Claims 24 and 73: Blazey discloses a process of making cheese as disclosed in Claim 1 and further discloses packaging the cheese for refrigerated storage [col. 8, line 48]. Lashkari discloses a flavor concentrate made from a mold as discussed in claim 1 but neither reference explicitly discloses storing the cheese at temperatures between 5°C to 35°C and a relative humidity of 80% or greater. However, The American Cheese Society discloses that cheese should be stored between 35°F and 45°F (1.6°C to 7.2°C) at a high humidity level [2nd paragraph].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing, and The American Society to store the cheese at 35°F and 45°F (1.6°C to 7.2°C) and at a high humidity because storage under these condition are well known in the art and help retain freshness and organoleptic quality of the cheese. Further, although The American Cheese Society does not disclose the same temperature range as in the instant claim, one having ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by The American Society overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. In re Malagari 182 USPQ 549,553. Further, although The American Cheese Society does not explicitly disclose the humidity as higher than 80% it does disclose that the humidity must be high, therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the humidity level for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Bassah, 617 F.2d 272.

7. Claims 32, 33, 46, 47, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118), Lashkari (UK 1,057,170), Dybing et al. (WO 02/082917) and Bernard et al. (US 4,948,613) and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051) as applied to claim 2 above and in further view of Chikuma (US 3,091,539).

Regarding Claims 32, 33, 46, 47, 48: Blazey discloses a process of making cheese as discussed in Claim 1 but does not disclose where the cheese is subject to freezing. However, Chikuma discloses a method of making a cheese product by freezing, thawing and further ripening curd [col. 3, lines 1-6]. Lashkari discloses flavor, Dybing discloses calcium content and Bernard discloses cooling, inoculating the surface, and ripening as discussed above.

At the time of the invention it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing, Bernard, and Chikuma before him or her to modify the process of Blazey to incorporate a freezing step, thawing and ripening step in order to stop any undesired enzymatic reactions by freezing and to allow for further ripening of the cheese to enhance the flavor of the cheese product.

8. Claims 39 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118), Lashkari (UK 1,057,170), Dybing et al. (WO 02/082917) and Bernard et al. (US 4,948,613) and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051) as applied to claim 2 above and in further view of Bauman (US 2,965,492).

Regarding Claims 39 and 54: Blazey discloses a process of making cheese as disclosed in Claim 1. Lashkari discloses a flavor concentrate made from a mold as discussed in claim 1 but neither reference discloses where the flavor concentrate additionally discloses a flavor-enhancing

bacterium that produces lactic acid, propionic acid, or butyric acid. Bernard discloses a cheese product that is cooled, the surface of the cheese is inoculated and ripened as discussed above. However, Bauman discloses preparing a dried cheese product where the condensed milk is inoculated with lactic acid starter and *Penicillium raqueforti* [col. 4, lines 55 - 64].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing, Bernard and Bauman before him or her to incorporate a lactic acid starter in order to help implant *P. roqueforti* and serve as fuel for *P. roqueforti*.

9. Claims 44 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al. (US 6,177,118), Lashkari (UK 1,057,170), Dybing et al. (WO 02/082917) and Bernard et al. (US 4,948,613) and as evidenced by Skovhauge et al. (US 4,655,127) and Groesbeck et al. (US 5,455,051) as applied to claim 2 above and in further view of The American Cheese Society

(http://web.archive.org/web/20040917204831/http://www.cheesesociety.org/displaycommon.cfm?an=1&subarticlenbr=5).

Regarding Claims 44 and 59: Blazey discloses a process of making cheese as disclosed in Claim 1 and further discloses packaging the cheese for refrigerated storage [col. 8, line 48]. Lashkari discloses a flavor concentrate made from a mold as discussed in claim 1, Dybing discloses calcium content and Bernard discloses cooling, inoculating and ripening as discussed above but the references do not explicitly disclose storing the cheese at temperatures between 5°C to 35°C and a relative humidity of 80% or greater. However, The American Cheese Society discloses that cheese should be stored between 35°F and 45°F (1.6°C to 7.2°C) at a high humidity level [2nd paragraph].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing, Bernard, and The American Society to store the cheese at 35°F and 45°F (1.6°C to 7.2°C) and at a high humidity because storage under these condition are well known in the art and help retain freshness and organoleptic quality of the cheese. Further, although The American Cheese Society does not disclose the same temperature range as in the instant claim, one having ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by The American Society overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. In re Malagari 182 USPQ 549,553. Further, although The American Cheese Society does not explicitly disclose the humidity as higher than 80% it does disclose that the humidity must be high, therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the humidity level for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesth, 617 F.2d 272.

Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blazey et al.
 (US 6,177,118), Lashkari (UK 1,057,170), Dybing et al. WO (02/082917), and Bernard et al.
 (US 4,948,613) and Skovhauge et al. (US 4,655,127) as evidenced by Groesbeck et al. (US 5,455,051).

Regarding Claim 75: Blazey discloses as discussed above and disclose portioning out but does not explicitly disclose where after cooling the product is portioned out (consumer portions). Lashkari discloses a cheese flavor composition containing the mold *Penicillium requeforti* as discussed above in Claim 1. Bernard discloses a cheese product that is cooled, the surface of the cheese is inoculated with micro-organisms that grow and promote ripening of the cheese as discussed above in Claim 2. However, Skovhauge discloses where after cooling (5°C to 15° C), cheese grains, formed from protein concentrate, are filled in to a package [col. 4, lines 22-33] which has been interpreted as a consumer portion.

At the time of the invention it would have been obvious to one of ordinary skill in the art having the teachings of Blazey, Lashkari, Dybing, Bernard and Skovhauge before him or her to wait until the cheese product was cooled to a desirable temperature before portioning out for the consumer because the warm molten mass would not be able to retain its proper shape (block, slice) and the property quantity (oz. lb.) usually provided to consumers.

Response to Arguments

- 11 Applicants' arguments filed 3/3/10 have been fully considered but they are not persuasive. Applicants assert that Blazey teaches away from using rennet. Examiner disagrees because although Blazey discloses that rennet is not required, it does not teach away from the use of rennet in the production of the cheese product. Further Blazev discloses that adding rennet to a portion of the milk protein concentrate is within the scope of the invention. Examiner acknowledges applicants' explanation of why rennet would not be beneficial to the cheese in Blazey. However, examiner maintains that if Blazey allows for the incorporation of rennet, then one having ordinary skill in the art would not have been directed away from incorporating rennet into the enzyme even in light of applicants' assertion that the incorporation of rennet would have changed the product, absent a showing otherwise. Further, although Blazey does not disclose that a significant amount of coagulation is attributed to the rennet added in Example 1 of Blazey, it is still commensurate with the claims because coagulation in the instant claim is accomplished by heating the protein mixture and not necessarily by the rennet enzyme treatment. The coagulation was achieved in Blazey by the inclusion of ingredients similar to those used in the instant application, including milk, rennet, dried milk protein concentrate and further heating of the mass for 2 minutes at 80°C.
- Applicants assert that there was no motivation to combine Blazey and Lashkari because the slow process of developing a flavor as in Lashkari defeats the purpose of the quick product of

Blazey. Examiner disagrees because Lashkari was not used for its process. The process relied upon was that of Blazey. Lashkari was used to show that a flavor concentrate made from a particular strain of organism can be added to supplement flavor in other food products. Using the flavor concentrate of Lashkari does nothing to defeat the purpose of Blazey especially where Blazey anticipates the use of added flavor in its process and product.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FELIGIA C. KING whose telephone number is (571)270-3733. The examiner can normally be reached on Mon-Thu 7:30 a.m. - 5:00 p.m.; Fri 7:30 a.m. - 4:00 p.m. alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. K./ Examiner, Art Unit 1794

/Jennifer C. McNeil/ Supervisory Patent Examiner, Art Unit 1794